

IMAGE
CONVERSION

INTENSITY COMPENSATION
CAESAR

ALTEMUS

COMPUTER
IMAGE
PROCESSING

INTENSITY COMPENSATION
CAESAR

ALTEMUS

V SIZE
 J11-21 1,5
 1.5 IN X AXIS
 J12-28
 V. ANIM 2
 J11-6
 CPU-134
 J26

H SIZE
 J7-21

← Noisy

DIFF.
 X
 ADDER
 CPU-134
 J26

ABS. VALUE
 SM118-2
 J27
 & ADDERS

AM107
 X
 J28

ADDER
 SM118-3
 J25
 & ABS. VALUE

AM107
 X
 J22

AM107
 X
 J28

ROOTER
 SM120B
 J29

J9-18 DEPTH →

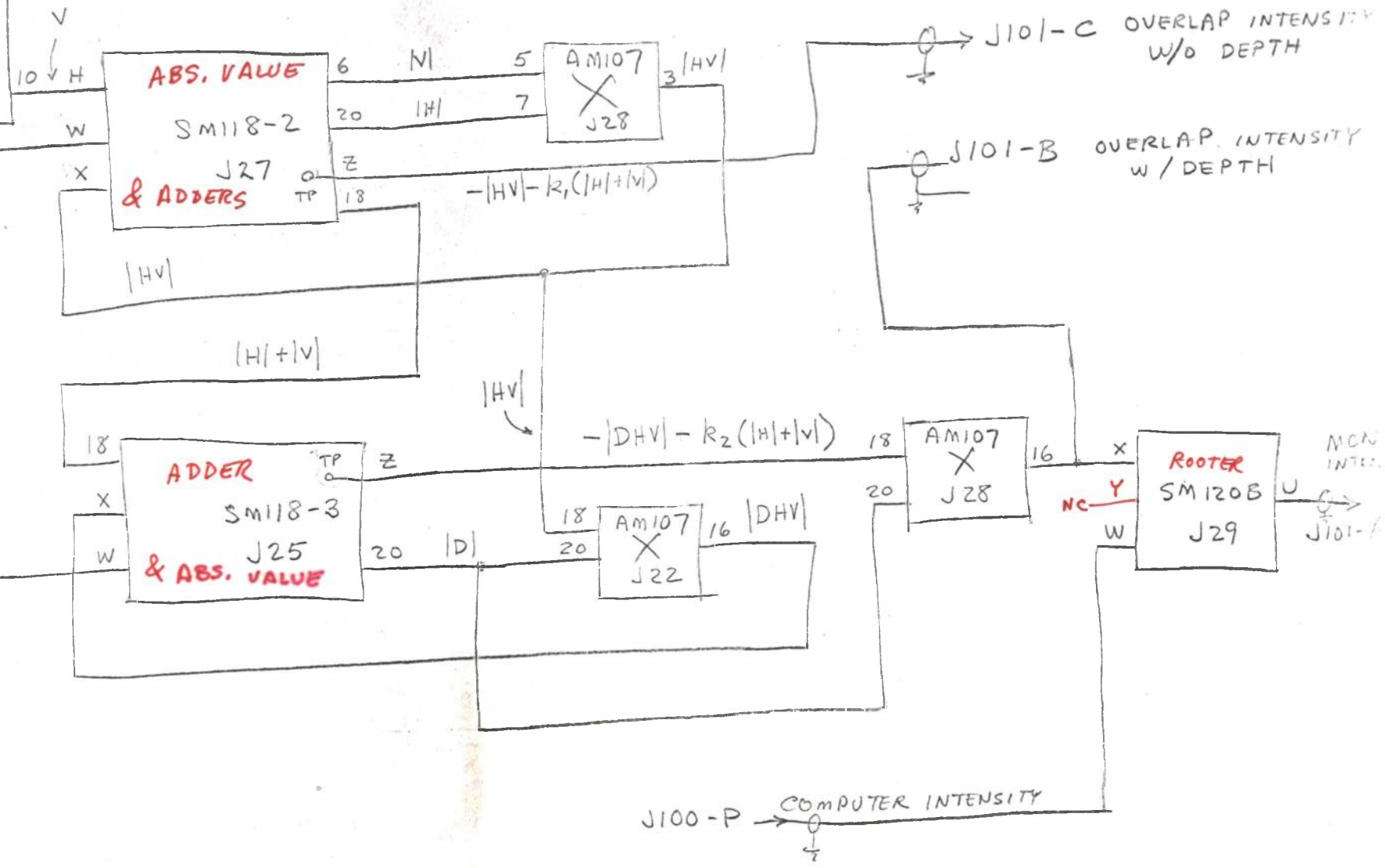
J101-C OVERLAP INTENSITY W/O DEPTH

J101-B OVERLAP INTENSITY W/DEPTH

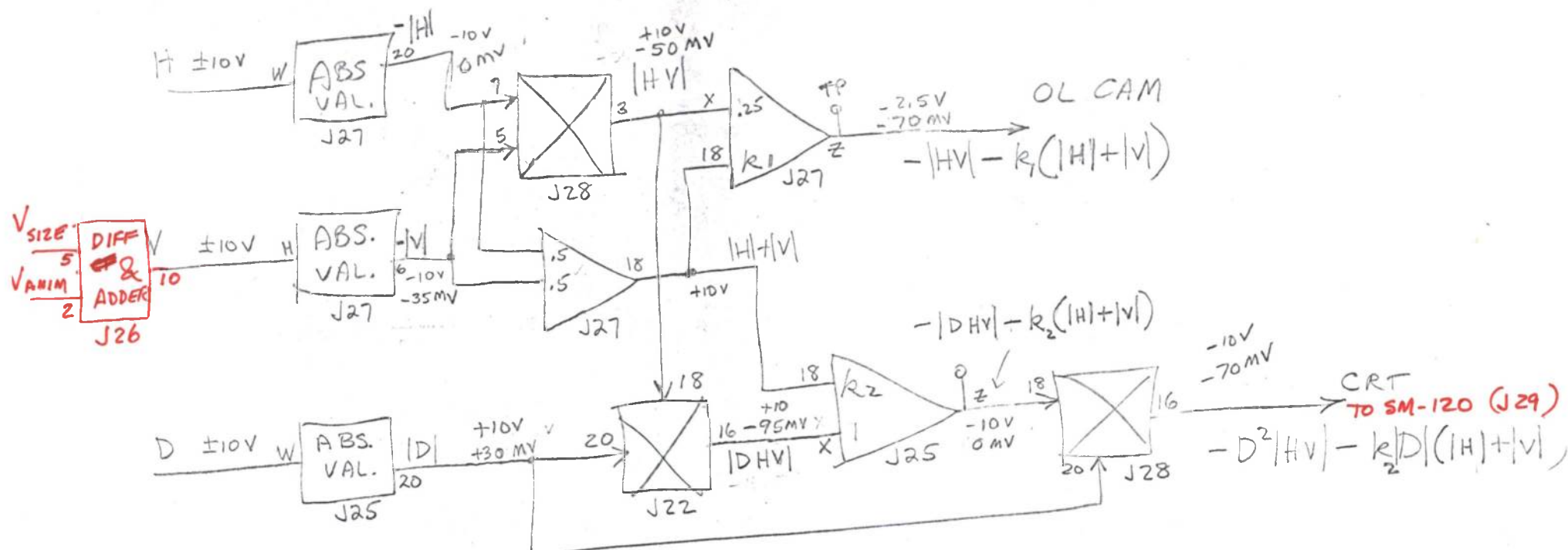
J100-P COMPUTER INTENSITY

MCN
 INTEN
 J101-1

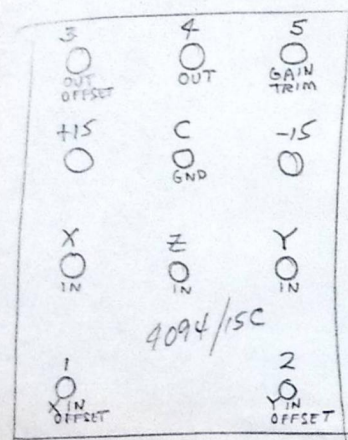
CAESAR CPU
 INTENSITY COMP.
 OBS.
 10-14-77



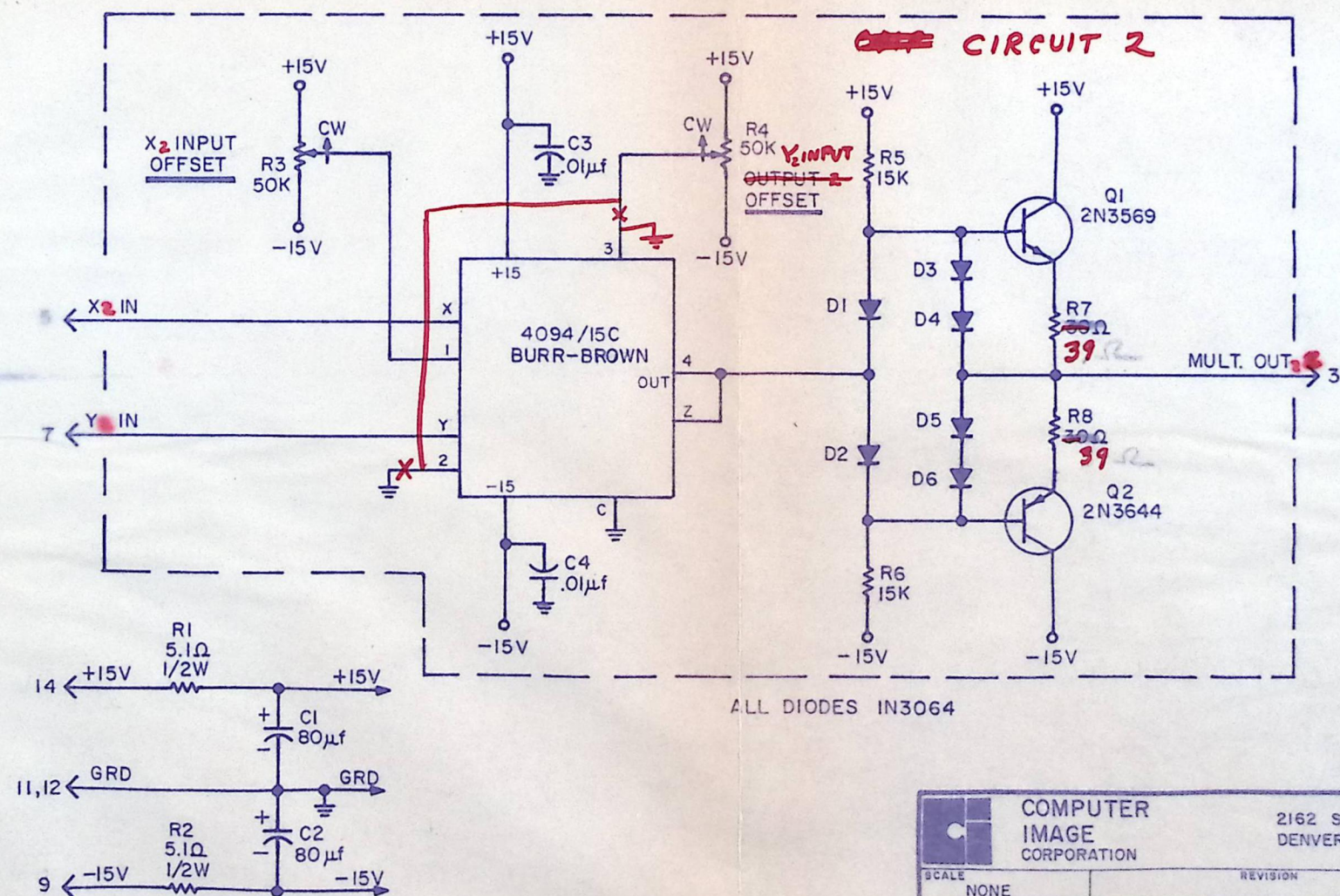
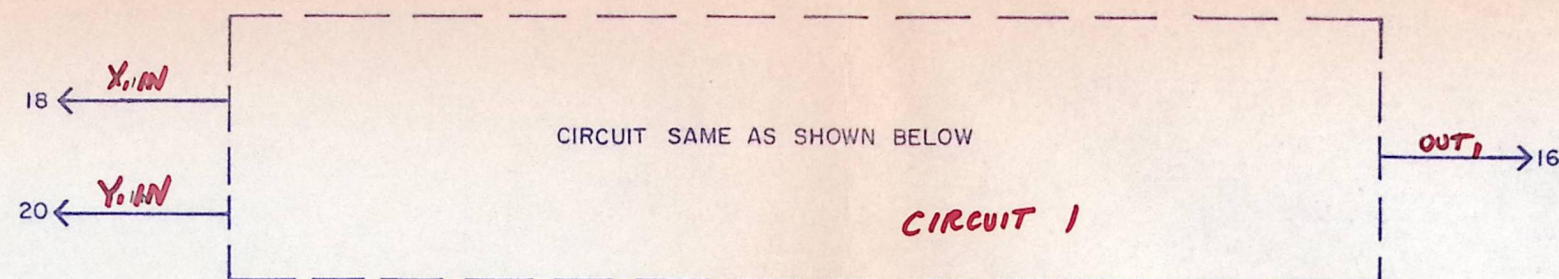
$H = \text{Hor Size}$
 $V = \text{Vert Size}$
 $D = \text{Depth}$



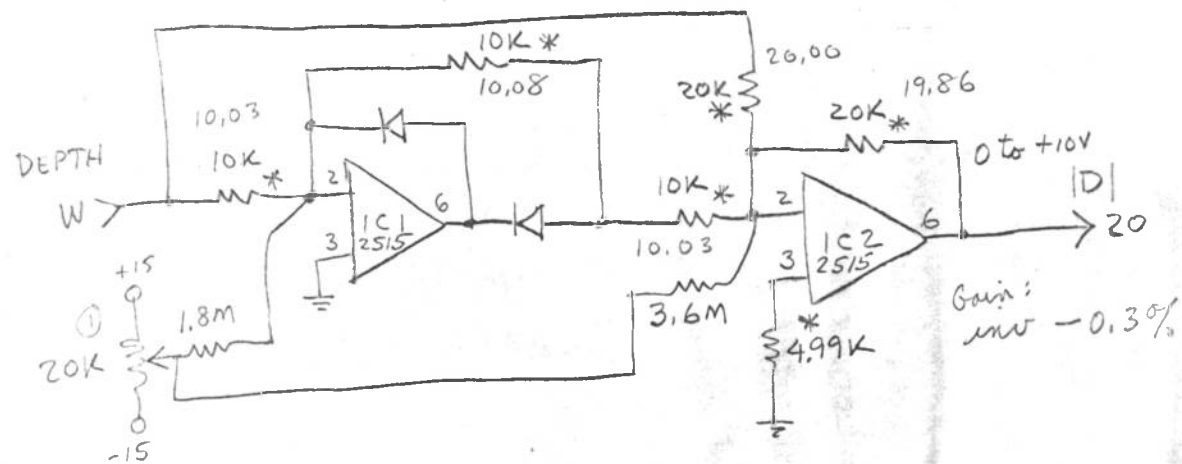
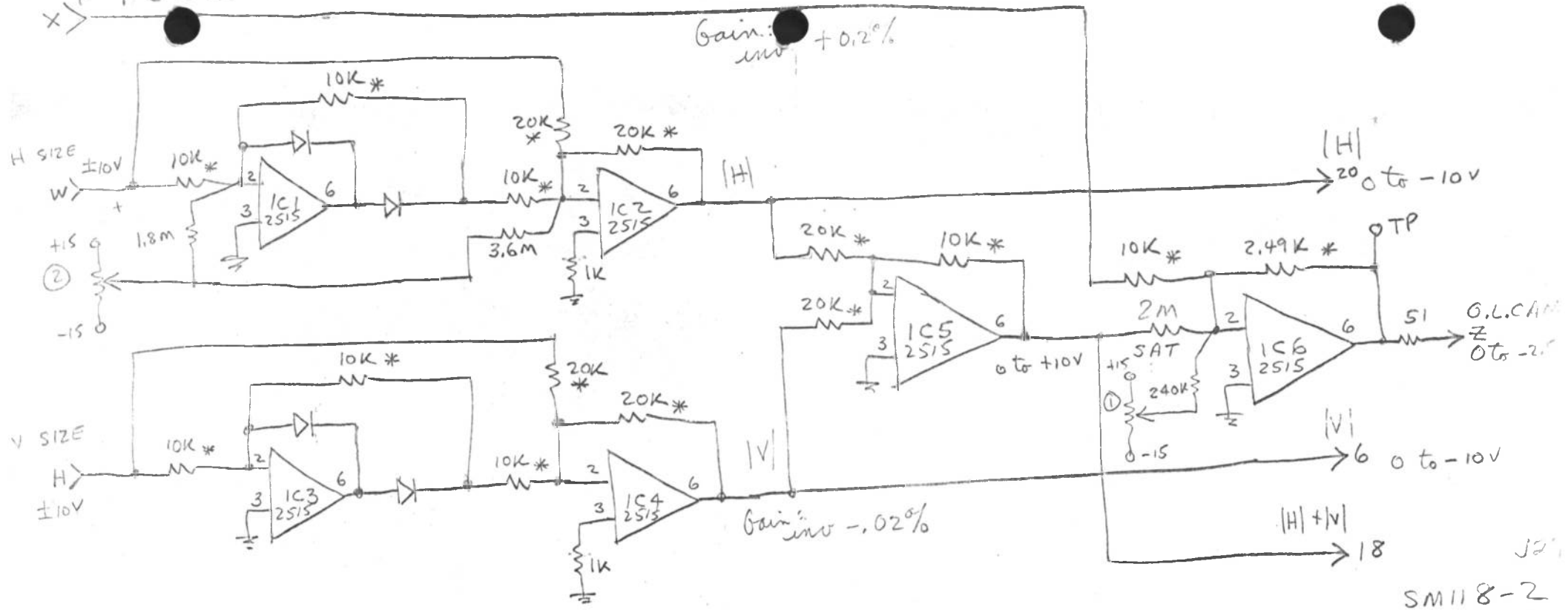
CAESAR INTENSITY COMP.
 OBS.



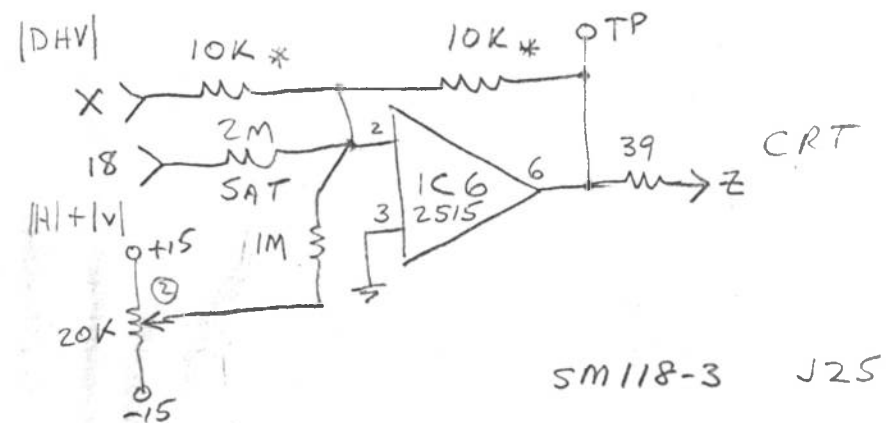
BOTTOM VIEW



COMPUTER IMAGE CORPORATION		2162 SOUTH JASON STREET., DENVER, COLORADO 80223.	
SCALE	NONE	REVISION	BY
DATE	11-7-70		
DR'N.	E.R.	CR'D.	J.B.
AP'VD.	J.B.		
TITLE MULTIPLIER CARD ANIMATION AID			NO. AM-107



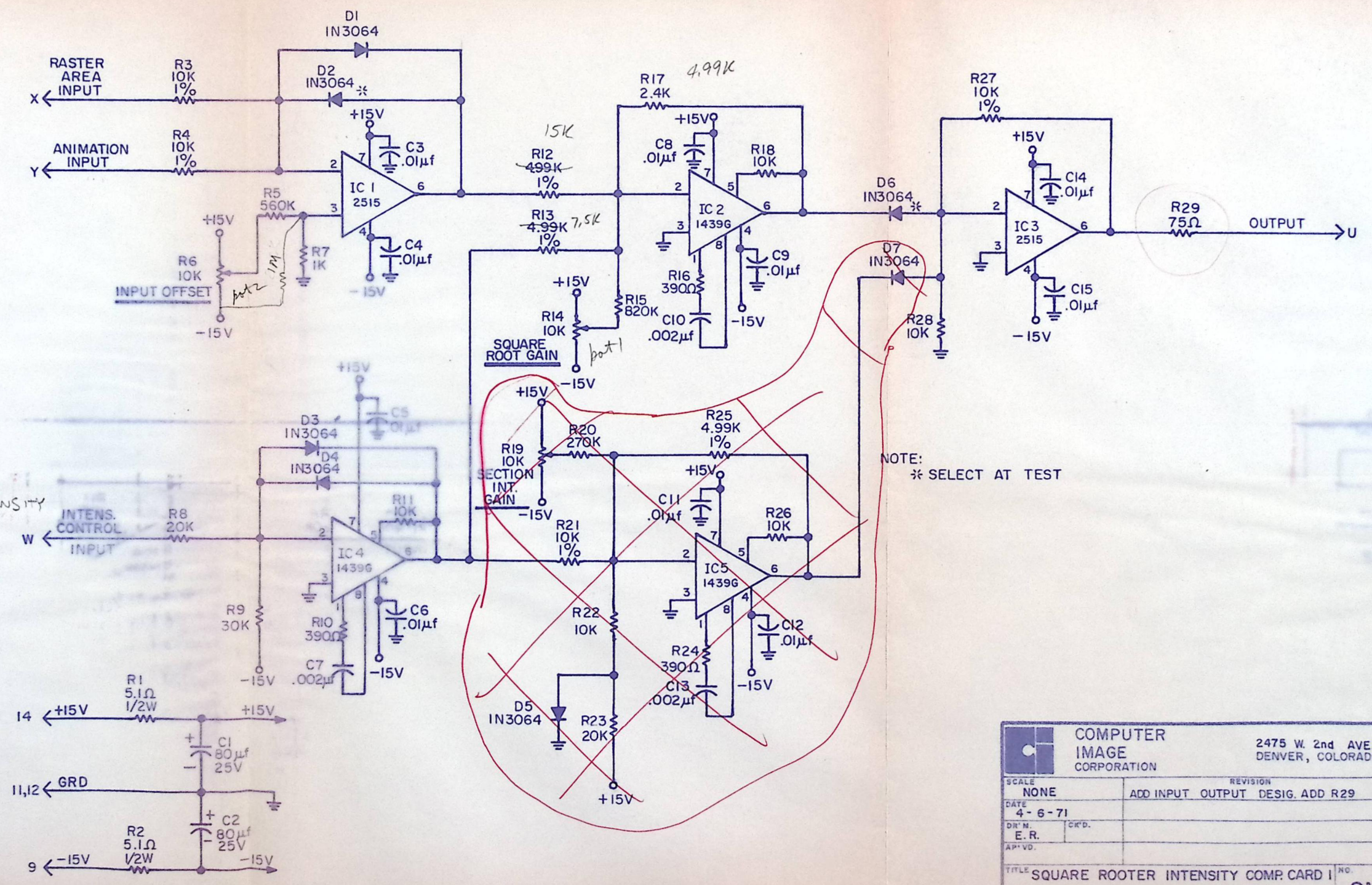
* 1%



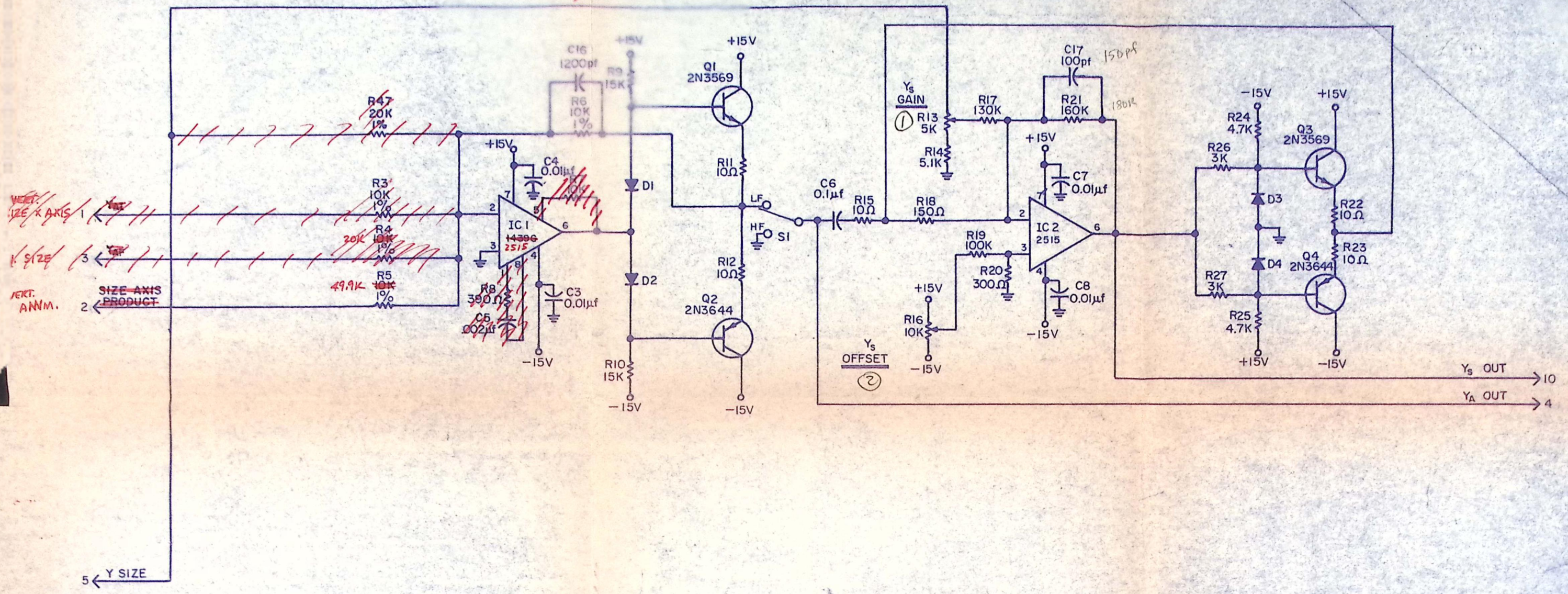
CAESAR INTENSITY COMP.

15,000
200.

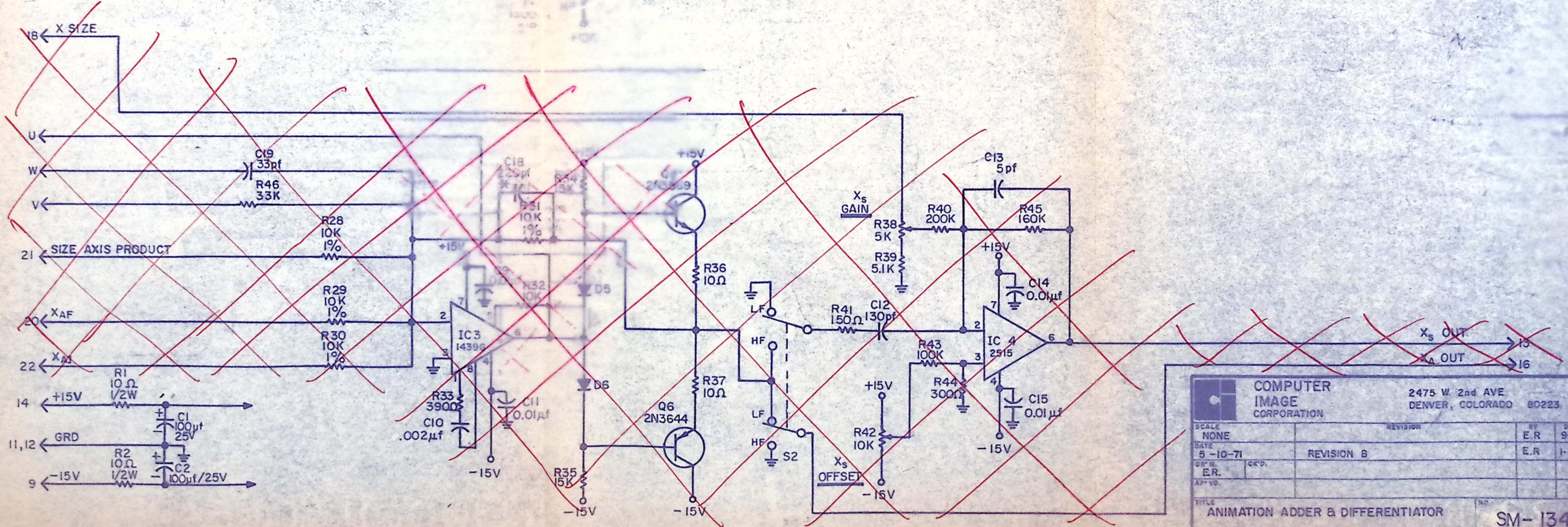
+10V 0 INTENSITY
-10V MAX "



COMPUTER IMAGE CORPORATION		2475 W. 2nd AVE. DENVER, COLORADO 80223.	
SCALE	NONE	REVISION	ADD INPUT OUTPUT DESIG. ADD R29
DATE	4-6-71	BY	ER BA
DR'N	E.R.	DATE	9-19-71
AP'VD.			
TITLE		NO.	
SQUARE ROOTER INTENSITY COMP CARD 1		SM-120B	



NOTE:
 ALL DIODES IN3064.
 ALL RESISTORS ARE 1/4W. ±5%, UNLESS OTHERWISE SPECIFIED.
 * WITH ROTATION



COMPUTER IMAGE CORPORATION 2475 W. 2nd AVE DENVER, COLORADO 80223	
SCALE NONE	REVISION REVISION B
DATE 5-10-71	BY E.R.
D.P. E.R.	DATE 1-11-72
TITLE ANIMATION ADDER & DIFFERENTIATOR	
ID SM-134B	

OBS.

	Bd.	J A	port #	V Size	H Size	Depth	Scope	Adjust for:
✓ H Abs Val	SM118	J27	2	max	min. H sweep	max	J27-TP J27-20	max. posit. ^{DC} lev.
✓ V Abs Val	CPU134	J26	2	min. V sweep	max	max	J27-TP J27-6	max positive ^{DC} lev.
✓ D Abs Val	SM118	J25	1	max	max	min H+V swp	J25-TP	max. positive ^{DC} lev.
✓ HV Mult {	AM107	J28	1	min. V sweep	±10V	max	J27-TP J28-3	null
	AM107	J28	2	±10V	min H sweep	max	J27-TP J28-3	null
✓ DHV Mult {	AM107	J22	3	min V sweep	min H sweep	±10V	J25-TP J22-16	null
	AM107	J22	4	±10V	max	min H+V swp	J25-TP J22-16	null
	SM118	J25	2	min V swp.	min H swp.	min H+V swp	J25-TP	approx zero DC lev.
✓ D ² HV Mult {	AM107	J28	3	min V swp	min H swp	±10V	J28-16	null
	AM107	J28	4	±10V	±10V	min H+V swp	J28-16	* null
	SM118	J27	1	min V swp	min H swp	min H+V swp	J27-TP	match DC level to J28-16
	SM120	J29					J29-U	

* Install 10K at SM118-3 pin 18, J25 for adjustment only

CPU 134 Animation Adder and Differentiator Adjustments (J26)-

SM118 (J27) Horizontal Size Offset (Xs Offset) *Adjustment*

1. Set Depth and V. Size controls for max. amplitude of the raster vertical^{sweep}_Δ (either polarity)
2. Adjust H. Size control for zero amplitude of the raster horizontal^{sweep}_Δ (use 0.05v/cm sens. at CPU output)
- ~~3.~~ ~~Set X switch to HF~~
- 4 3.3. Connect scope to Size Multiplier output (TP on J27-SM-118). -0.05v/cm sensitivity
- 4.4. Adjust Xs Offset pot^(#2) on J27 for most positive^{d.c.}_Δ level.

CPU 134 (J26) Vertical Size Offset (Ys Offset) *Adjustment*

1. Set Depth and H. Size controls for max. amplitude of the raster horizontal^{sweep}_Δ (either polarity)
2. Adjust V. Size control for zero amplitude of the raster vertical^{sweep}_Δ (0.05v/cm sens.)
3. Set Y switch to HF
4. Connect scope to Size Multiplier output (TP on J27-Sm-118) (0.05v/cm sens.)
5. Adjust Ys Offset pot^(#2) on J26 for most positive^{d.c.}_Δ level.

CPU-134

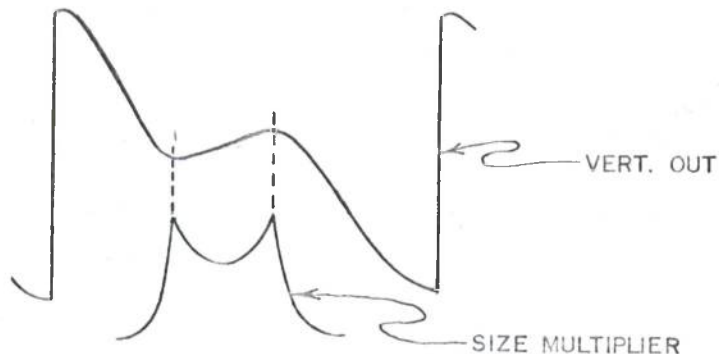
J26 Y Channel *Check*

1. Connect Scope H. to J26-2, Scope V. to J26-10
2. Set Depth to max. ($+10V$ or $-10V$), V. Axis +V, Size to zero, Y switch to LF.
3. Turn on V. Anim. Osc., freq. = 10 Hz., sine waveform.
4. Adjust V. Anim. Amplitude and V. Size for $\pm 10V$ swing on scope H.
5. Scope display should be a circle with $\pm 10V$ swing on Vert.
6. Change V. Anim. Osc. freq. to 380 Hz., amplitude for $\pm 0.25V$ swing on scope H.
7. Scope display should be same as step 5.
8. Change V. Anim. Osc. freq. to 500 Hz., triangle waveform, amplitude for $\pm 0.25V$ swing on scope H.
9. Scope display should be a square with $\pm 10V$ swing on Vert.

CPU-134 (J26)

Vertical Size Gain (Ys Gain) *Adjustment*

1. Set Vert. and Horiz. sweeps to max. amplitude (either polarity) using H. Size, V. Size and Depth controls. ~~Adjust V. Axis control to zero input at J25-7.~~
2. Connect scope vertical inputs to CPU Y Out and SM-118 Size Multiplier output (J27-TP) and display both simultaneously using CHOP mode.
3. Set Y switch to LF, and Rotation control so that vert. sweep is in CPU Y Out.
4. Turn on V. Anim ~~or Depth Anim.~~ ^{Size} oscillator, set frequency to about $2 \times f_v$, phase lock to frame, amplitude as shown below.
5. Adjust Ys Gain pot ^(#1) so that the positive output peaks of size multiplier coincides in time with points of zero slope of vert. as shown below.



Note: Amplitude of Vertical oscillator should be just sufficient to produce a double peak from size multiplier.